Publication supported by the Open Society Fund / Lithuania (grant code 2000-V0137-0)

Final report

Open Society Fund project "Health human resource development and planning in Lithuania"

NACIONALINĖ SVEIKATOS TARYBA

LR SVEIKATOS APSAUGOS MINISTERIJA

PASAULIO SVEIKATOS ORGANIZACIJOS ATSTOVYBĖ LIETUVOJE

LIETUVOS SVEIKATOS INFORMACIJOS CENTRAS

PHYSICIAN PLANNING IN LITHUANIA IN 1990-2015

Publication supported by:

Open Society Fund Lithuania

Atviros Lietuvos fondas

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1. Introduction

Like other former communist countries, Lithuania inherited the physician human resources (PHR) dominated by specialists when it gained its independence in 1990, after the breakup of the Soviet Union. The ratio of physicians to population in the country was higher than in Western European countries. In this overview we look at the status of the PHR at the time of independence, the changes in the PHR structure since independence, and project what lies ahead for Lithuania in planning the PHR of the future.

The largest of the three Eastern Baltic Republics, both in area and population, Lithuania has a population of about 3.7 million people. The population is predominantly Lithuanian. There are 8.7% Russians (fewer than found in the other Baltic nations) and 7% Polish. Lithuania was annexed into the Soviet Union in 1940 and remained a part of the Soviet Union until March 1990 (1,2).

The health system in Lithuania before its independence followed the same centralized Semashko model, prevalent throughout the former Soviet Union (3-4). There was no private sector in health care under this centralized system. Health services, to which all citizens had access, were provided by government employees. The Soviet system focused more on the quantity of hospitals and physicians than on quality. Because of strategic Soviet military interests, a great over-capacity developed in portions of the system, while shortages persisted in the other segments.

As in the other Central and Eastern European countries, the health system in Lithuania has undergone substantial reform since 1990 (3). It has evolved from a system funded by general taxation to one funded by social insurance, which is paid for largely by payroll deductions paid by both employees and employers. The Ministry of Health is responsible for the overall health system, with each of the 10 counties and 56 local self-governments having some authority over health facilities within their jurisdictions. Two parallel, but specialized, health systems are run by the Ministry of Internal Affairs and the Ministry of Defense (1).

Primary health care physicians are paid on a per capita basis, whereas physicians in hospitals and polyclinics are employed on a salary basis. Physician pay is traditionally low in Lithuania and constitutes 80% of the national average (in 1999 national average

was approximately 253 USD). This fact can be partially explained by the predominance of female physicians, who receive 80% of male average salary in other areas of economy as well. However, in 1996, salaries of health care sector were increasing faster than the national average (1).

A major part of the reform of physician resources in the former communist countries has been the development of primary health care as a centerpiece of the health systems (3). The specialist dominated physician resources were ill prepared to lead the transition to primary care (5).

Like the other fields of the health sector, medical education in Lithuania has undergone a substantial change, evolving from the Soviet medical training system where there was no special postgraduate training after graduation from the Medical Faculty. In order to solve this problem, a system of physician training in residencies was introduced in 1994 (6). Physicians in Lithuania are trained either at Kaunas University of Medicine (KUM) or at the Medical Faculty of Vilnius University (VU). After completion of six years at a Medical Faculty, graduates receive a diploma and then complete one year of obligatory primary residency training. Depending on the specialty chosen, a secondary residency can take from two to four years. After completion of the secondary residency, narrow specialization in a tertiary residency is available, which can take one to three additional years, depending on the specialization. The recent visit (2002) of Technical Assistance Information Exchange office experts (TAIEX) confirmed that medical studies in Lithuania correspond to the EU medical education requirements (7).

Even though an important part of health care sector reform, the planning of the PHR has not been a high priority over the last decade in Lithuania. Several studies have been performed both by international organizations (United Nations Development Program, World Bank, Phare) and by local experts. However, those recommendations have generally remained only on paper. Although the studies (performed in 1994-1996) varied in completeness, they all found an oversupply of physicians with maldistribution by region, specialty, and gender, and emphasized the need to reduce the list of 96 physician specialties (8-10).

Major factors, determining supply of physicians in a given country, are current number of active physicians, annual number of graduates (taking into account annual

drop out rate from the undergraduate medical studies), and annual number of those who drop out from the profession due to the various reasons (retirement, death/illness, migration, move to other professions, etc.). It is very important to understand that due to a long training cycle, changes in enrollments applied today will reflect themselves only after nine or even more years in the actual PHR. Furthermore, the planning process is aggravated by lack of appropriate and precise data on active physicians and their distribution.

All listed factors lead to conclusion that physician planning is very urgent, but at the same time complex and long-term process, which requires newest scientifically based knowledge, constant monitoring and observation.

2. Description of the Open Society Fund project "Health human resource planning and development in Lithuania"

Aiming at the creation of a sustainable and consistent PHR planning policy, a project group was formed in 2000 consisting of representatives from the Medical Faculties, the Ministry of Health (MoH), the Lithuanian Health Information Center (LHIC), the WHO Liaison Office / Lithuania, the National Board of Health (NBH), the State Sickness Fund (SSF) and Xavier University (USA). The project group aimed to prepare PHR planning recommendations based on the analysis of existing physician databases in Lithuania. The project, funded by the Open Society Fund, also developed a capability to forecast future physician needs by training a PhD student at KUM. Part of the project included developing of course in the health human resource (HHR) planning for graduate students of KUM and VU.

The project was structured around the following seven objectives:

1. To overview the legislative background for the development of the PHR in Lithuania;
2: To summarize all activities undertaken during 1991-2000 in Lithuania in the field of planning and development of the PHR;
3. To examine the changes in the PHR in Lithuania in 1993-2000;
4. To overview international experience in the PHR planning;
5. To develop within Lithuania the capability of analyzing and developing the HHR needs for the future;
6. Based on research results of existing data sources, national and international experience to elaborate recommendations for the PHR planning for the next decade in Lithuania including training and needs assessment for the future supply;
7. To publish and disseminate project outputs for the international, national, regional and municipal levels.

In the frame of the project, databases of LHIC, MoH, SSF and KUM were analyzed; a cohort study of student drop out rates from the undergraduate medical studies at KUM, a cohort study of drop out of KUM graduates from the profession and a study of migration intentions of Lithuanian physicians and medical residents were performed. On the basis of above mentioned analysis and studies, physician supply in Lithuania till 2015 was projected. Here we review the

major studies performed by the project group. Overall results of the project were presented to the Parliament March 4, 2003.

3. Databases providing data on physicians

Data on the present PHR in Lithuania could be obtained from several sources. The Lithuanian Health Information Center database, started in 1993, is updated annually and provides data on physician (physical persons and full-time equivalents) distribution by specialty and region. However, this database does not provide information on physicians by gender and age. The Physician License Registry at the Ministry of Health was established in 1999 and is scheduled to be updated every five years. According to the licensing regulations, physicians are entitled to hold more than one license; therefore data provided reflect the number of licenses as well as physical persons and distribution by gender, age and specialty. A new database of the State Sickness Fund was established in 1999 and provides data on physicians who hold contracts with the State Sickness Fund. The database, which is updated daily, provides data on physicians by age, gender, geographic region, type of services performed, start date of services and end date (if appropriate).

After restoration of independence in 1990, data on physicians were collected using a list of 96 specialties, a high number compared to other countries. In 1999, the Ministry of Health approved a list of 19 specialties and subspecialties. Some specialties do not include any subspecialties; however other specialties contain one or more subspecialties (11-12).

No one database or registry of physicians in Lithuania can provide all the needed information in a timely manner. The incomplete information and the inability to link physician databases have limited their usefulness. The database maintained by the Lithuanian Health Information Center is the most current but lacks a breakdown by age or gender. The Physician License Registry maintained by the Ministry of Health will only be updated every five years and would quickly be outdated. The database by the State Sickness Fund contains only a record of services provided and excludes those physicians who do not have contracts with the State Sickness Fund. Without some more comprehensive registry or means to link the existing registry, complete information on the physician human resources in Lithuania is not available.

4. Changes in the physician human resources in 1993-2000

Although the PHR in Lithuania have undergone substantial reform since 1990, real change to the structure has been slow. The physician to population ratio in Lithuania has remained high, moving from 401.3 in 1990, the year of independence, to 379.8 in 2000 (13).

A breakdown of physicians by specialty in 1993 and 2000 revealed that the largest proportion of physicians were internists, pediatricians, medical residents, gynecologists and surgeons. Physicians of other specialties contributed to less than 5% of the total number (Fig.1, 2) (14).

The distribution of physicians by specialty is slowly changing, however, as a result of the implementation of primary health care reform, the number of general practitioners has increased almost nine times since 1993. Also, the number of medical doctor practice physicians (those having finished a seventh-year of training, but not entered secondary residency) has increased more than nine times. Between 1993–2000 the largest decrease by specialty was genetics (-64%), laboratory medicine (-32%) and forensic medicine (-26%). However, the number of persons in these specialties was small; therefore care should be used in drawing conclusions from these changes. There was also a decrease in number of pediatricians (-16%) and internists (-18%) (Fig. 1, 2) (14).

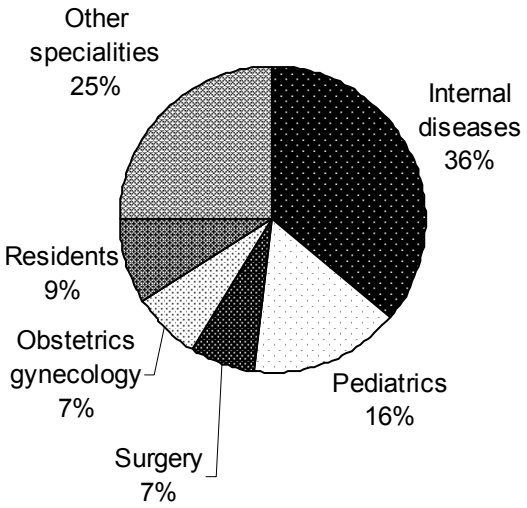

Fig. 1. Distribution of physicians by specialty, 1993

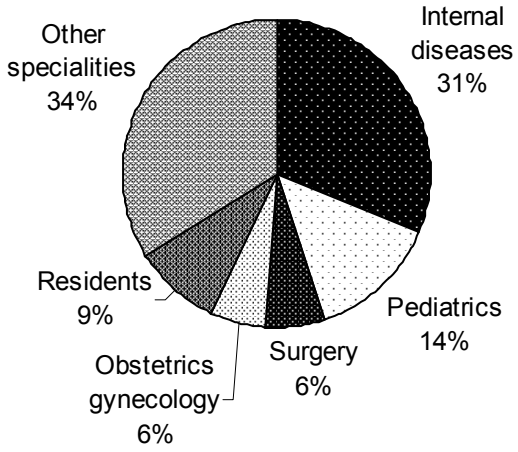

Fig. 2. Distribution of physicians by specialty, 2000

The common features of the PHR in Central and Eastern European countries, the maldistribution of physicians by gender, regions and specialties are also found in Lithuania.

The large percentage of women physicians in Lithuania has remained relatively constant since independence in 1990. In 2000, sixty-nine percent of the physicians were women, with largest proportion of general practitioners (85%) and pediatricians (92%) being women. Women clearly dominate in almost all physician specialties, except surgery (9%), orthopedic traumatology (11%), forensic medicine (18%) and children surgery (34%) (1,5,15,16).

The age structure of physicians in Lithuania was relatively even in 1990 and didn't change substantially over the last 10 years (11,15). The largest percentage of physicians fell into the 36–50 year age category. The percentage of physicians who were older than 60 years was 15%. The official retirement age for women is 60 years and for men 62.5 years (15-17).

In 2000, the geographic distribution of physicians in Lithuania was very unequal, with the majority working in urban areas, while in rural settings the numbers were lower. The percentage of physicians in cities has remained constant at about 65% over the last 20 years. The average annual change in the number of physicians in urban areas in 1989-1999 was –1.17 (95 % CI –1.83; -0.51); in rural areas it was –0.46 (95 % CI –0.98; 0.05). Observing physician distribution by counties in 2000, the largest physician population ratio was in Vilnius and Kaunas counties, the most populous counties (average 546.5 physicians per 100,000 population). Both counties have the Medical Faculties and tertiary care university hospitals. The average annual change in 1994-1999 in number of physicians in two biggest counties was 0.30 (95 % CI –0.72; 1.35) in Vilnius county and 0.03 (95 % CI -0.77; 0.83) in Kaunas county. The average number of physicians in the remaining eight counties was 234.1 physicians per 100,000 population in 2000 (14).

The number of students admitted to medical studies is decided by the Universities with the Medical Faculties, the Ministry of Health, the Ministry of Education and the Ministry of Finance (1). The number of state-financed students starting in 1994 was 150 at Kaunas University of Medicine and 80 at Vilnius University. Additional places for students paying the full study cost were also available following agreement with the

Ministry of Health. As a result of pressure from authorities, but with tremendous resistance from the Medical Faculties, enrollment to medical studies was reduced by more than 30% during 1989-1999, however starting with 2000, enrollment started to increase again. Because of the long physician training cycle, the impact of those earlier changes was not felt until recently. More than 17% of all enrolled students drop out of the undergraduate medical studies for the various reasons. Females dominate the current PHR and the percentage of females enrolled in medical studies has been increasing. In 1995, at Kaunas University of Medicine 65% of all enrolled medical students were female, by 2001, females constituted 82%. This growth indicates that female role in future physician resources will increase even further.

The yearly number of the medical graduates in Lithuania has decreased since 1994. Comparing the yearly number of the medical graduates per 100,000 population in Lithuania (6.5 per 100,000 in 2000), it was lower than the CEE average (8.69 per 100,000 in 2000) and much lower than the EU average (9.94 per 100,000 in 1998) (13).

Physician resource structure in Lithuania and their distribution is unequal and rigid to change. Even though the geographic maldistribution of physicians in Lithuania is obvious, there have been no implementation of a consistent incentive policy to encourage physicians to move to rural areas. Understanding the importance of the issue, the National Board of Health in its yearly report of 2000 pointed out that if no appropriate measures were taken, the problems with the supply of physicians in Lithuania would grow in the near future; a shortage of physicians was observed not only in rural areas, but also in some remote municipalities, in addition, 15% of physicians were more than 60 years old (18).

5. Factors determining physician supply in the country

Major factors determining the future supply of physicians in the country are the number of physicians who yearly graduate from the medical studies and the number of those who drop out from the profession due to the various reasons (retirement, move to other professions, migration, death, etc.). The high number of women physicians must be also considered when planning and projecting the future physician supply in Lithuania. In general, women physicians practice less than males and drop out of the PHR at various times during child-bearing age (3,19).

Due to an unfavorable retirement policy, physicians have been reluctant to retire; therefore, retirement could not be considered as a strong drop out factor in determining changes in PHR in Lithuania (17).

In this chapter we review a cohort study of drop out from the undergraduate medical studies of KUM students, an eight-cohort study of KUM medical graduates in order to identify those licensed and practicing and a migration study of Lithuanian physicians and medical residents.

5.1. Cohort study of drop out from the undergraduate medical studies of KUM students

This study was performed with the aim to find out the drop out rates from the undergraduate medical studies. In 1989, 318 students were enrolled to the medical studies at KUM. The largest part (70.4%) of them graduated in 1995. However, only 82.7 % finished the studies (Table 1).

Table 1. Distribution of KUM medical students enrolled in 1989 by the year of graduation

Medical students	**All students (%/n)**	**Male (%/n)**	**Female (%/n)**
Enrolled in 1989	100/318	43.4/138	56.6/180
Graduated in 1995	70.4/224	63.8/88	75.6/136
Graduated in 1996	8.2/26	8.7/12	7.8/14
Graduated in 1997	2.8/9	3.6/5	2.2/4
Graduated in 1998	0.9/3	0.7/1	1.1/2
Graduated in 2000	0.3/1	0/0	0.6/1
Graduates, totally	**82.7/263**	**76.8/106**	**87.2/157**

The largest part of the students (66% of all drop-outs) dropped out during the third and the fourth year of studies. The proportion of male and female students between enrolled and graduated students was similar: in the case of enrolled students, females formed 56.6% and in the case of graduates – 60%.

Data of graduates was linked to the Physician License Registry at the MoH and the SSF database. Out of all graduates, 76.1 % were licensed, however only 49.8% held contracts with the SSF. It was noted that larger percentage of females was licensed and practicing: 83.4% of them were licensed and 57.3% were practicing as physicians (males– 65.1% and 38.7%, respectively).

The cohort study indicated that 17.3% of enrolled students dropped out from the undergraduate medical studies. It is an alarming fact. This type of study should be repeated every 3-4 years in order to follow the dynamics of drop out from the undergraduate medical studies.

5.2. Cohort study of KUM medical graduates in order to identify licensed and practicing physicians

The aim of this cohort study was to identify which part of medical graduates of KUM was licensed and practicing 5-40 years after graduation. Eight cohorts of graduates (starting with 1962, every 5 years) were included in the study. The study was performed November 2001 – September 2002.

Data of selected eight cohorts of KUM graduates were computerized and then linked to the Physician License Registry at the MoH in order to find out which part of graduates was licensed (Table 2). The results indicated that the largest part of licensed physicians (84.9%) graduated in 1982; however, only 53.1% of year 1962 graduates were licensed. This difference could be explained by the age difference, i.e. large part of the latter cohort could have been retired. However, the fact that physician was licensed did not indicate that he was practicing.

Afterwards the data were linked to the database of the SSF in order to find out which part of graduates was practicing medicine (Table 2). The linkage showed that smaller part of KUM graduates held contracts with the SSF than were licensed. Again,

the largest percentage of practicing physicians (79.3%) was found in the cohort of 1982. Surprisingly low percentage, only 41.5% of 1997 cohort graduates, held contracts with the SSF. This could be partially explained by the fact, that part of the cohort was still listed as medical residents who did not hold contracts with the SSF.

Table 2. Distribution of KUM graduates according to the license and the contract with the SSF

Year of graduation from KUM	Total number of graduates	Licensed (%/n)	Holding contract with the SSF (%/n)	Total number of licensed and / or holding contracts with the SSF (%/n)
1962	207	53.1/110	45.9/95	56.0/116
1967	242	68.6/166	59.9/145	69.0/167
1972	444	64.2/285	57.4/255	65.5/291
1977	302	80.8/244	70.5/213	80.8/244
1982	299	84.9/254	79.3/237	84.9/254
1987	270	78.1/211	64.8/175	78.1/211
1992	300	82.0/246	63.3/190	82.0/246
1997	195	74.4/145	41.5/81	74.9/146
Totally	**2259**	**73.5/1661**	**61.6/1391**	**74.1/1675**

Based on the data of eight cohorts, the linear regression was performed, which revealed that the annual drop out rate from the profession of KUM medical graduates was 0.57%. This rate was considered when projecting physician supply In Lithuania till the year 2015.

The cohort study revealed that a substantial percentage of KUM medical graduates was not licensed and even larger percentage was not practicing medicine; the annual drop out rate from the profession was 0.57%. This calls for further research and full computerization of both KUM and VU archives.

5.3. Study of possible migration of physicians and medical residents to the European Union

Lithuania faces several challenges in planning physician resources in coming years. It is expected that the entry into the European Union (EU) will increase the mobility of physicians. A survey was performed in order to determine the rates of future

physician and medical resident migration abroad (March - June 2002). The questionnaire used for the survey was developed by the Ministry of Labor and Solidarity of France. The permit to use the questionnaire for study purposes was obtained from its authors and double translation of the survey (French–Lithuanian–French) was conducted in order to ensure originality of the questionnaire (20). The survey of medical residents of KUM was performed using the interview method. The representative sample, calculated using Statcalc program of Epi Info statistical package, consisted of 242 medical residents randomly selected from 540 medical residents studying at the University (21). If medical resident in the random list could not be interviewed, the next resident in the general list was surveyed. The number of questionnaires sent to physicians was 800, two times higher than the size of representative sample (387 physicians, calculated using Statcalc program of Epi Info statistical package) (21), expecting a 50% response rate. The random sample of physicians from all Lithuania was obtained from the SSF database. The random sample was generated of last 800 records of physicians entered into the SSF database. The survey was performed in two steps: mailing questionnaires with one reminder to non-respondents. After the first round the response rate was 41.4% (n=331); after the reminder it reached 62.1% (n=497). Logistic regression was used to estimate risk factors for intention of physicians and medical residents to go abroad. Gender (male vs. female), age, life in the city, English language skills, being married/cohabiting, visit abroad for professional reasons and having friends abroad were used as independent variables.

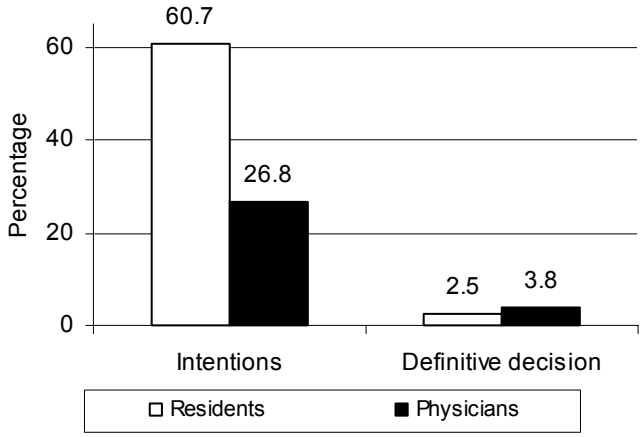

Fig. 3. Intentions of Lithuanian physicians and residents to leave for the EU

The survey indicated that 60.7% of medical residents and 26.8% of physicians intended to leave for the EU or other countries (Fig. 3). However, this was a definitive decision of 3.5% of physicians and 2.5% of medical residents. The main reasons for migration were higher salary, better professional opportunities and better quality of life; the first-choice countries were the Nordic countries, United Kingdom and Germany. For medical residents a previous visit abroad for professional reasons increased the risk of going to work abroad significantly (OR – 3.29, 95% CI 1.73-6.27). In the case of physicians, age was the factor that significantly decreased the risk (OR - 0.94, 95% CI 0.91-0.96); however having friends abroad increased the risk by more than three times (OR – 3.22, 95% CI 1.91-5.42).

Using the same questionnaire, the surveys were performed in three other EU accession countries: Hungary, Poland and Czech Republic. Comparing the results from four countries, migration intentions of Lithuanian physicians were the lowest, compared to those of Polish, Hungarian and Czech physicians (Fig. 4). Migration intentions of Polish and Lithuanian physicians were less definitive than those of Hungarians and Czechs. The first-choice countries were the same as in the case of Lithuanian physicians: Germany and United Kingdom. Hungarians and Czechs also indicated Austria as a preferred country for the possible migration (20).

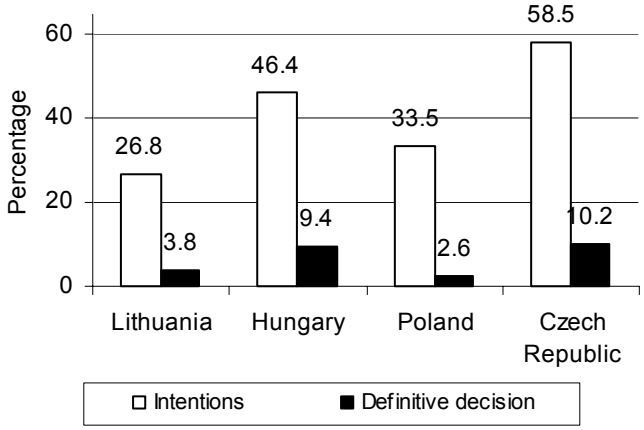

Fig. 4. Intentions of Lithuanian, Hungarian, Polish and Czech physicians to leave for the EU

It is recommended that the migration survey would be repeated every 3-4 years, in order to observe and project possible migration of physicians and medical residents to the EU or other countries.

6. Projections of the physician supply till the year 2015

A comprehensive plan for the long-range physician resource needs in Lithuania is essential if an adequate number of resources are to be available for the future. For a plan to be successful, it must have input from all interested parties, including government, the Medical Faculties and physicians themselves. It also requires one frequently updated and complete database on PHR.

In order to determine a physician planning goal until 2015 in Lithuania, a Delphi study was performed in 2000 (22). Target recipients of the survey were deans of the Medical Faculties, members of the National Board of Health, chief physicians of the counties, directors of the Territorial Sickness Funds and the State Sickness Fund, representatives of the Ministry of Health and of the WHO Liaison Office. A total of 34 questionnaires were sent; the survey response rate was 68% (n=23) in the first round. In the second round the surveys were sent out only to the respondents of the first round (n=23); the response rate was 65% (n=15), with the overall response rate of 44%. A consensus agreed to aim at 335 physicians per 100,000 population. The respondents also agreed that the number of General Practitioners should be 67 per 100,000 population.

Projection of the number of physicians till the year 2015 was based on the following assumptions:

- Annual population growth: -0.06% (23);
- Annual drop out rate due to retirement (at the age of 66): 1.92% (15);
- Annual drop out rate due to death or illness: 1.08% (23);
- Annual drop out rate due to move to other professions: 0.57% (source: cohort study of KUM medical graduates);
- Annual drop out rate due to migration: 0.43% (assumption of the project group);
- Annual drop out from studies: 17.3% (source: cohort study of undergraduate medical students of KUM);
- Average length of studies: 9 years;
- Annual student enrollment: 250 students till the year 2015, or 400 students starting with year 2002.

Using the planning model recommended by World Health Organization, it was projected, that the supply of physicians in Lithuania would decrease by 25% in 2015, if the enrollment of new students stayed at current level (250 per year). In this case the number of physicians would decrease to 294 per 100,000 population (283 per 100,000 excluding administrators), i.e. much lower than the recommended number of 335 physicians per 100,000 population (Fig. 5, 6).

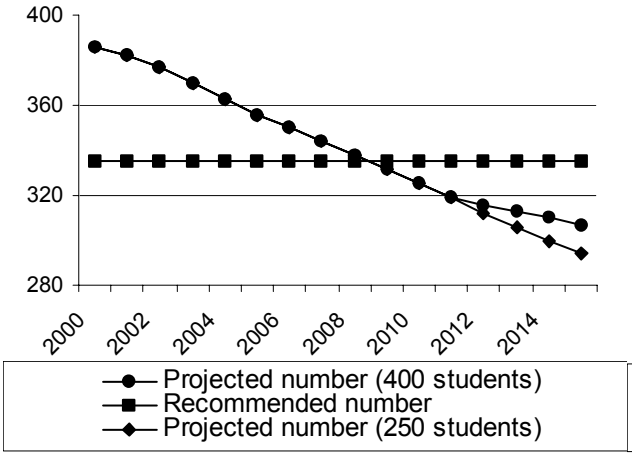

Fig. 5. Projected number of physicians (including administrators) per 100,000 population till 2015

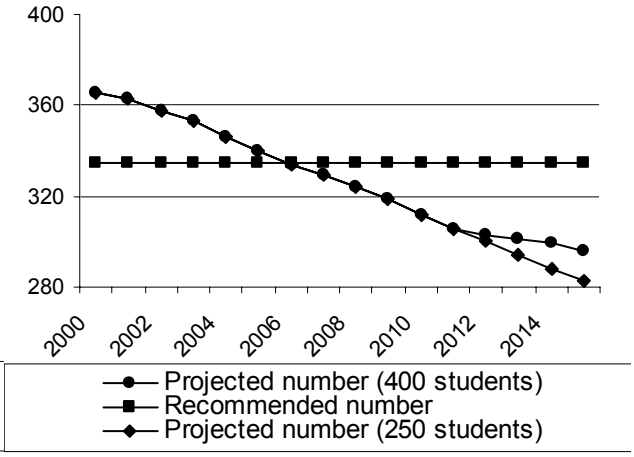

Fig. 6. Projected number of physicians (excluding administrators) per 100,000 population till 2015

Even if enrollment were changed to 400 starting with 2002, the number of physicians in 2015 would decrease by 20%, i.e. to 307 per 100,000 population (296 per 100,000 excluding administrators). On the basis of these projections, enrollment to the state-financed places in the undergraduate medical studies at KUM and VU was changed to the total number of 400 students starting with 2002.

The long physician training cycle, significantly reduced enrollments to the Medical Faculties, high student drop out rate from the undergraduate medical studies, the large number of non-licensed and non-practicing medical graduates, the large percentage of female physicians, and the large number of physicians who have reached retirement age lead to the conclusion that the number of physicians in Lithuania will decrease in the next 15 years, going below the target number of physician planning agreed upon in Delphi study. In addition, the first ever survey of medical residents and physicians in Lithuania on their intentions for leaving abroad indicates that the impact on physicians in Lithuania after accession to the European Union and the introduction

of its free-movement policy will be tangible. The immigration of physicians from other EU countries is unlikely, with a more likely source of physicians being from less developed Eastern European and former Soviet countries, although the numbers and the impact are not clear at this point.

The multitude of factors facing the physician workforce in Lithuania makes it an absolute necessity not only to continue research on the topic, but also indicates an urgent need to develop a comprehensive physician training and planning policy. Failure to develop a long-range plan will result in an inappropriate number of physicians to care for the population.

7. Summary and conclusions

Physician planning in Lithuania, as in other countries, is a complex and challenging task. No one database or registry of physicians in Lithuania can provide all the needed information in a timely manner. The incomplete information and the inability to link physician databases have limited their usefulness. The database maintained by the Lithuanian Health Information Center is the most current but lacks a breakdown by age or gender. The Physician License Registry maintained by the Ministry of Health will only be updated every five years and would quickly be outdated. The database by the State Sickness Fund contains only a record of services provided and excludes those physicians who do not have contracts with the State Sickness Fund. Without some more comprehensive registry or means to link the existing registry, complete information on the physician workforce in Lithuania is not available.

Physician resource structure in Lithuania and their distribution is unequal and rigid to change. It is necessary to form consistent policy of undergraduate and postgraduate physician training as well as policy of solving geographic maldistribution; a shortage of physicians was observed not only in rural areas, but also in some remote municipalities, in addition, 15% of physicians were more than 60 years old.

Large percentage (17.3%) of enrolled students dropped out from the undergraduate medical studies at Kaunas University of Medicine. A substantial percentage of Kaunas University of Medicine medical graduates were not licensed and even larger percentage was not practicing medicine; the annual drop out rate from the profession was 0.57%. The migration survey indicated that 60.7% of medical residents and 26.8% of physicians intended to leave for the EU or other countries. However, this was a definitive decision of 3.5% of physicians and 2.5% of medical residents. The main reasons for migration was higher salary, better professional opportunities and better quality of life; the first-choice countries were the Nordic countries, United Kingdom and Germany. For medical residents a previous visit abroad for professional reasons increased the risk of going to work abroad significantly (OR – 3.29, 95% CI 1.73-6.27). In the case of physicians, age was the factor that significantly decreased the risk (OR - 0.94, 95% CI 0.91-0.96); however having friends abroad increased the risk by more than three times (OR – 3.22, 95% CI 1.91-5.42).

The long physician training cycle, significantly reduced enrollments to the Medical Faculties, high student drop out rate from medical studies, the large number of non-licensed and non-practicing medical graduates, the large percentage of female physicians, and the large number of physicians who have reached retirement age lead to the conclusion that the number of physicians in Lithuania will decrease in the next 15 years, going below the target number of physician planning agreed upon in Delphi study. In addition, the first ever survey of medical residents and physicians in Lithuania on their intentions for leaving abroad indicates that the impact on physicians in Lithuania after accession to the European Union and the introduction of its free-movement policy will be tangible. The immigration of physicians from other EU countries is unlikely, with a more likely source of physicians being from less developed Eastern European and former Soviet countries, although the numbers and the impact are not clear at this point.

The multitude of factors facing the physician workforce in Lithuania makes it an absolute necessity not only to continue research on the topic, but also indicates an urgent need to develop a comprehensive physician training and planning policy. Failure to develop a long-range plan will result in an inappropriate number of physicians to care for the population.

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